

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

Claims 1-2. (cancelled)

3. (currently amended): A communication-status notification apparatus ~~according to claim 2,~~ for a communication system in which at least one subscriber terminal is connected to a communication network via first gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, said apparatus being adapted to be incorporated in the first gateway equipment and comprising:

a communication-status monitor/control section for monitoring/controlling the communication status of the communication network, based on the processing status of the voice data in the first gateway equipment; and

a communication-status notification section for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section via the first gateway equipment;

wherein said communication-status notification section includes a notification-material storage section for storing at least one of voice, character and image as notification materials, and is operable to carry out the notification of communication status using the notification materials stored in said notification-material storage section.

4. (currently amended): A communication-status notification apparatus ~~according to claim 2,~~ for a communication system in which at least one subscriber terminal is connected to a

communication network via first gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, said apparatus being adapted to be incorporated in the first gateway equipment and comprising:

a communication-status monitor/control section for monitoring/controlling the communication status of the communication network, based on the processing status of the voice data in the first gateway equipment; and

a communication-status notification section for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section via the first gateway equipment;

wherein said communication-status monitor/control section includes a traffic-status monitor/control section for monitoring/controlling a traffic status in the communication network, based on ~~a sending/receiving status of packets in the first gateway equipment~~ at least either of i) information about the traffic status collected from each of one or more routers, which are included in the communication network, and ii) a sending/receiving status of test packets to/from second gateway equipment, which is connected to the communication network and serves as a companion to the first gateway equipment for voice data transmission.

5. (original): A communication-status notification apparatus according to claim 4, wherein said traffic-status monitor/control section includes:

a traffic-information request section for requesting each of one or more routers, which are included in the communication network, to send information about the traffic status in each said router to the first gateway equipment, by transmitting a request signal to each said

router via the first gateway equipment;

a traffic-information obtaining section for obtaining the information about the traffic status, which has been sent from each said router in response to the request signal transmitted by said traffic-information request section, out of various data received by the first gateway equipment; and

a traffic-status analysis section for analyzing the traffic status of the communication network, based on the traffic-status information obtained by said traffic-information obtaining section.

6. (original): A communication-status notification apparatus according to claim 4, wherein said traffic-status monitor/control section includes:

a test-packet sending section for sending one or more test packets via the gateway equipment to second gateway equipment, which is connected to the communication network and serves as a companion to the first gateway equipment for voice data transmission;

a test-packet retrieving section for retrieving the individual test packet, which has been sent back from the second gateway equipment, out of packets received by the first gateway equipment; and

a traffic-status analysis section for analyzing the traffic status of the communication network, based on the retrieving status of the test packets by said test-packet retrieving section.

7. (original): A communication-status notification apparatus according to claim 4, wherein

said traffic-status monitor/control section includes a communication-quality evaluation section for evaluating communication quality of voice data transmitted over the communication network, based on the traffic status monitored by said traffic-status monitor/control section, and

said communication-status notification section is operable to notify the subscriber terminal of information about the communication quality of voice data evaluated by said communication-quality evaluation section.

8. (original): A communication-status notification apparatus according to claim 7, wherein said traffic-status monitor/control section further includes a band-alteration request section, responsive to the communication quality of voice data evaluated by said communication-quality evaluation section, for requesting each of one or more routers, which are included in the communication network, to alter a band to be used for voice data transmission, by transmitting a request signal to each said router via the first gateway equipment.

9. (currently amended): A communication-status notification apparatus ~~according to claim 2,~~ for a communication system in which at least one subscriber terminal is connected to a communication network via first gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, said apparatus being adapted to be incorporated in the first gateway equipment and comprising:

a communication-status monitor/control section for monitoring/controlling the

communication status of the communication network, based on the processing status of the voice data in the first gateway equipment; and

a communication-status notification section for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section via the first gateway equipment;

said communication-status monitor/control section includes a cryptographic-processing-status monitor/control section for monitoring/controlling a cryptographic-processing status of voice data transmitted over the communication network.

10. (original): A communication-status notification apparatus according to claim 9, wherein

said cryptographic-processing-status monitor/control section includes a cryptographic-processing section for cryptographic-processing voice data sent/received by the first gateway equipment, and

said communication-status notification section is operable to notify the subscriber terminal of the cryptographic-processing status of voice data by said cryptographic-processing section.

11. (original): A communication-status notification apparatus according to claim 10, wherein said cryptographic-processing section is operable to carry out at least one of scramble, encryption and interleave as a cryptographic process.

12. (original): A communication-status notification apparatus according to claim 9,

wherein

said cryptographic-processing-status monitor/control section further includes a cryptographic-processing-status monitor section for monitoring a cryptographic-processing status of voice data by second gateway equipment, which is connected to the communication network and serves as a companion to the first gateway equipment for voice data transmission, based on a transmission status of packets between the first gateway equipment and the second gateway equipment, and

said cryptographic-processing section is operable to carry out the cryptographic-processing in accordance with the cryptographic-processing status of the second gateway equipment monitored by said cryptographic-processing-status monitor section.

13. (original): A communication-status notification apparatus for a communication system in which at least one subscriber terminal is connected to an communication network via first gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, said apparatus being adapted to be incorporated in the first gateway equipment and comprising:

a request analysis section for discriminating whether or not voice data received by the first gateway equipment from the subscriber terminal contains a request on monitoring/controlling or notifying a communication status in the communication network, and for analyzing the content of said request contained in the voice data received from the subscriber terminal;

a communication-status monitor/control section, responsive to the content of said request analyzed by said request analysis section, for monitoring/controlling the communication

status of the communication network, based on the processing status of the voice data in the first gateway equipment; and

a communication-status notification section, responsive to the content of said request analyzed by said request analysis section, for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section via the first gateway equipment.

14 (original): A communication-status notification apparatus according to claim 13, wherein when the content of said request analyzed by said request analysis section is related with starting or stopping of the notification of the communication status, said communication-status notification section is operable to start or stop the notification of the communication status according to the content of said request.

15. (original): A communication-status notification apparatus according to claim 13, wherein when the content of said request analyzed by said request analysis section is related with selecting of a kind of the communication status to be notified, said communication-status notification section is operable to notify the subscriber terminal of the selected kind of the communication status according to the content of said request.

16. (original): A communication-status notification apparatus according to claim 13, wherein said communication-status notification section includes a notification-material storage section for storing at least one of voice, character and image as notification materials, and is operable to carry out the notification of communication status, using the notification materials

stored in said notification-material storage section.

17. (original): A communication-status notification apparatus according to claim 13, wherein said communication-status monitor/control section includes a traffic-status monitor/control section for monitoring/controlling a traffic status in the communication network, based on a sending/receiving status of packets in the first gateway equipment.

18. (original): A communication-status notification apparatus according to claim 17, wherein said traffic-status monitor/control section includes:

a traffic-information request section for requesting each of one or more routers, which are included in the communication network, to send to the first gateway equipment information about the traffic status in each said router, by transmitting a request signal to each said router via the first gateway equipment;

a traffic-information obtaining section for obtaining the information about the traffic status, which has been sent from each said router in response to the request signal transmitted by said traffic-information request section, out of various data received by the first gateway equipment; and

a traffic-status analysis section for analyzing the traffic status of the communication network based on the traffic-status information obtained by said traffic-information obtaining section.

19. (original): A communication-status notification apparatus according to claim 17, wherein said traffic-status monitor/control section includes:



a test-packet sending section for sending one or more test packets via the first gateway equipment to second gateway equipment, which is connected to the communication network and serves as a companion with the first gateway equipment for voice data transmission;

a test-packet retrieving section for retrieving the individual test packet, which has been sent back from the second gateway equipment, out of packets received by the first gateway equipment; and

a traffic-status analysis section for analyzing the traffic status of the communication network, based on the retrieving status of the test packets by said test-packet retrieving section.

20. (original): A communication-status notification apparatus according to claim 17, wherein

said traffic-status monitor/control section includes a communication-quality evaluation section for evaluating communication quality of voice data transmitted over the communication network, based on the traffic status monitored by said traffic-status monitor/control section, and

said communication-status notification section is operable to notify the subscriber terminal of information about the communication quality of voice data evaluated by said communication-quality evaluation section.

21. (original): A communication-status notification apparatus according to claim 20, wherein said traffic-status monitor/control section further includes a band-alteration request section, responsive to the communication quality of voice data evaluated by said

communication-quality evaluation section, for requesting each of one or more routers, which are included in the communication network, to alter a band to be used for voice data transmission, by transmitting a request signal to each said router via the first gateway equipment.

22. (original): A communication-status notification apparatus according to claim 13, wherein said communication-status monitor/control section includes a cryptographic-processing-status monitor/control section for monitoring/controlling a cryptographic-processing status of voice data transmitted over the communication network.

23.(original): A communication-status notification apparatus according to claim 22, wherein

said cryptographic-processing-status monitor/control section includes a cryptographic-processing section for cryptographic-processing voice data sent/received by the first gateway equipment, and

said communication-status notification section is operable to notify the subscriber terminal of the cryptographic-processing status of voice data by said cryptographic-processing section.

24.(original): A communication-status notification apparatus according to claim 23, wherein said cryptographic-processing section is operable to carry out at least one of scramble, encryption and interleave as a cryptographic process.

25.(original): A communication-status notification apparatus according to claim 22,

wherein

said cryptographic-processing-status monitor/control section further includes a cryptographic-processing-status monitor section for monitoring a cryptographic-processing status of voice data by second gateway equipment, which is connected to the communication network and serves as a companion with the first gateway equipment for voice data transmission, based on a transmission status of packets between the first gateway equipment and the second gateway equipment, and

said cryptographic-processing section is operable to carry out the cryptographic-processing in accordance with the cryptographic-processing status of the second gateway equipment monitored by said cryptographic-processing-status monitor section.

26. (original): A communication-status display apparatus for a communication system in which at least one subscriber terminal is connected to a communication network via gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, and also serving to monitor/control a communication status in the communication network so as to notify the subscriber terminal of information about the monitored/controlled communication status, said apparatus being adapted to be incorporated in the subscriber terminal and comprising:

a notified-information detection section for detecting information about the communication status of the communication network, which status is monitored/controlled by the gateway equipment, when the subscriber terminal is notified of the communication-status information from the gateway equipment;

a display-material storage section for storing at least one of voice, character and

image as display materials; and

a communication-status display section for displaying the communication status of the communication network, based on the communication-status information detected by said notified-information detection section, using said display materials stored in said display-material storage section.

Claim 27. (cancelled)

28. (original): A communication-status notification method for notifying at least one subscriber terminal of a communication status in a communication network of a communication system in which the subscriber terminal is connected to the communication network via gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, said method comprising the steps of:

at the subscriber terminal,

(a) sending to the gateway equipment a request on monitoring/controlling or notifying of a communication status of the communication network, said request being contained in voice data transmitted over the communication network;

at the gateway equipment,

(b) discriminating whether or not voice data received from the subscriber terminal contains said request sent by the subscriber terminal in said step (a) and, when the voice data received from the subscriber terminal contains said request, analyzing the content of said request contained in the voice data;

(c) in response to the content of said request analyzed in said step (b), monitoring/controlling the communication status of the communication network, based on a processing status of the voice data in the gateway equipment; and

(d) in response to the content of said request analyzed in said step (b), notifying the subscriber terminal of the communication status monitored/controlled in said step (c).

Claim 29. (cancelled)

30.(currently amended): A recording medium, in which a communication-status notification program is recorded, for use in a gateway equipment of a communication system in which at least one subscriber terminal is connected to a communication network via the gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, wherein said communication-status notification program instructs the gateway equipment to function as the following:

means for discriminating whether or not voice data received by the gateway equipment from the subscriber terminal contains a request on monitoring/controlling or notifying of a communication status in the communication network, and for analyzing the content of said request contained in the voice data received from the subscriber terminal;

means, responsive to the content of said request analyzed by said discriminating and analyzing means, for monitoring/controlling the communication status of the communication network, based on the processing status of the voice data in the gateway equipment; and

means, responsive to the content of said request analyzed by said discriminating

and analyzing means, for notifying the subscriber terminal of the communication status, which is monitored/controlled by said monitoring/controlling means, via the gateway equipment.

Claims 31-32. (cancelled)

33. (new): A communication-status notification method for notifying at least one subscriber terminal of a communication status in a communication network of a communication system in which the subscriber terminal is connected to the communication network via first gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, said method being carried out at the first gateway equipment and comprising the steps of:

(a) monitoring/controlling the communication status of the communication network, based on a processing status of voice data in the first gateway equipment; and

(b) notifying the subscriber terminal of the communication status monitored/controlled in said step (a);

wherein said step (a) includes monitoring/controlling a traffic status in the communication network, based on at least either of i) information about the traffic status collected from each of one or more routers, which are included in the communication network, and ii) a sending/receiving status of test packets to/from second gateway equipment, which is connected to the communication network and serves as a companion to the first gateway equipment for voice data transmission.

34.(new): A communication-status notification method for notifying at least one

subscriber terminal of a communication status in a communication network of a communication system in which the subscriber terminal is connected to the communication network via gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, said method being carried out at the gateway equipment and comprising the steps of:

(a) monitoring/controlling the communication status of the communication network, based on a processing status of voice data in the gateway equipment; and

(b) notifying the subscriber terminal of the communication status monitored/controlled in said step (a);

wherein said step (a) includes monitoring/controlling a cryptographic-processing status of voice data transmitted over the communication network.

35. (new): A recording medium, in which a communication-status notification program is recorded, for use in first gateway equipment of a communication system in which at least one subscriber terminal is connected to a communication network via the first gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, wherein said communication-status notification program instructs the first gateway equipment to function as the following:

means for monitoring/controlling a communication status in the communication network, based on a processing status of voice data in the first gateway equipment; and

means for notifying the subscriber terminal of the communication status of the communication network, which is monitored/controlled by said monitoring/controlling means,

via the first gateway equipment;

wherein said means for monitoring/controlling is operable to monitor/control a traffic status in the communication network, based on at least either of i) information about the traffic status collected from each of one or more routers, which are included in the communication network, and ii) a sending/receiving status of test packets to/from second gateway equipment, which is connected to the communication network and serves as a companion to the first gateway equipment for voice data transmission.

36. (new): A recording medium, in which a communication-status notification program is recorded, for use in gateway equipment of a communication system in which at least one subscriber terminal is connected to a communication network via the gateway equipment, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, wherein said communication-status notification program instructs the gateway equipment to function as the following:

means for monitoring/controlling a communication status in the communication network, based on a processing status of voice data in the gateway equipment; and

means for notifying the subscriber terminal of the communication status of the communication network, which is monitored/controlled by said monitoring/controlling means, via the gateway equipment;

wherein said means for monitoring/controlling is operable to monitor/control a cryptographic-processing status of voice data transmitted over the communication network.



37. (new): A communication apparatus for use in a communication system including a communication network and at least one subscriber terminal, said apparatus being disposed between the communication network and the subscriber terminal and comprising:

a gateway section serving to create/analyze a packet as a voice data transmission medium so that the subscriber terminal sends/receives voice data over the communication network;

a communication-status monitor/control section for monitoring/controlling the communication status of the communication network, based on the processing status of the voice data in said gateway section; and

a communication-status notification section for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section via said gateway section;

wherein said communication-status monitor/control section includes a traffic-status monitor/control section for monitoring/controlling a traffic status in the communication network, based on at least either of i) information about the traffic status collected from each of one or more routers, which are included in the communication network, and ii) a sending/receiving status of test packets to/from gateway equipment, which is connected to the communication network and serves as a companion to said gateway section for voice data transmission.

38. (new): A communication apparatus for use in a communication system including a communication network and at least one subscriber terminal, said apparatus being disposed between the communication network and the subscriber terminal and comprising:

a gateway section serving to create/analyze a packet as a voice data transmission medium so that the subscriber terminal sends/receives voice data over the communication network;

a communication-status monitor/control section for monitoring/controlling the communication status of the communication network, based on the processing status of the voice data in said gateway section; and

a communication-status notification section for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section via said gateway section;

wherein said communication-status monitor/control section includes a cryptographic-processing-status monitor/control section for monitoring/controlling a cryptographic-processing status of voice data transmitted over the communication network.

39. (new): A communication apparatus for use in a communication system including a communication network and at least one subscriber terminal, said apparatus being disposed between the communication network and the subscriber terminal and comprising:

a gateway section serving to create/analyze a packet as a voice data transmission medium so that the subscriber terminal sends/receives voice data over the communication network;

a request analysis section for discriminating whether or not voice data received by the gateway section from the subscriber terminal contains a request on monitoring/controlling or notifying a communication status in the communication network, and for analyzing the content of said request contained in the voice data received from the subscriber terminal;

a communication-status monitor/control section, responsive to the content of said request analyzed by said request analysis section, for monitoring/controlling the communication status of the communication network, based on the processing status of the voice data in the gateway section; and

a communication-status notification section, responsive to the content of said request analyzed by said request analysis section, for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section.

40. (new): A communication-status notification apparatus for a communication system in which at least one subscriber terminal is connected to a communication network via a router, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, said apparatus being adapted to be incorporated in the router and comprising:

a communication-status monitor/control section for monitoring/controlling the communication status of the communication network, based on the processing status of the voice data in said router; and

a communication-status notification section for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section via said router;

wherein said communication-status monitor/control section includes a traffic-status monitor/control section for monitoring/controlling a traffic status in the communication network, based on at least either of i) information about the traffic status collected from each of

one or more routers, which are included in the communication network, and ii) a sending/receiving status of test packets to/from second gateway equipment, which is connected to the communication network and serves as a companion to said router for voice data transmission.

41.(new): A communication-status notification apparatus for a communication system in which at least one subscriber terminal is connected to a communication network via a router, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber terminal sends/receives voice data over the communication network, said apparatus being adapted to be incorporated in the router and comprising:

a communication-status monitor/control section for monitoring/controlling the communication status of the communication network, based on the processing status of the voice data in said router; and

a communication-status notification section for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section via said router;

wherein said communication-status monitor/control section includes a cryptographic-processing-status monitor/control section for monitoring/controlling a cryptographic-processing status of voice data transmitted over the communication network.

42.(new): A communication-status notification apparatus for a communication system in which at least one subscriber terminal is connected to a communication network via a router, serving to create/analyze a packet as a voice data transmission medium, so that the subscriber

terminal sends/receives voice data over the communication network, said apparatus being adapted to be incorporated in the router and comprising:

a request analysis section for discriminating whether or not voice data received by the router from the subscriber terminal contains a request on monitoring/controlling or notifying a communication status in the communication network, and for analyzing the content of said request contained in the voice data received from the subscriber terminal;

a communication-status monitor/control section, responsive to the content of said request analyzed by said request analysis section, for monitoring/controlling the communication status of the communication network, based on the processing status of the voice data in the router; and

a communication-status notification section, responsive to the content of said request analyzed by said request analysis section, for notifying the subscriber terminal of the communication status monitored/controlled by said communication-status monitor/control section.